

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group I in the reply filed on 14 October 2010 is acknowledged. The traversal is on the ground(s) that the Group II claims are closely related, and the search and examination of all the claims can be made without serious burden. This is not found persuasive because as provided in 37 CFR 1.475(a), a national stage application shall relate to one invention only or to a group of inventions so linked as to form a single general inventive concept ("requirement of unity of invention"). Where a group of inventions is claimed in a national stage application, the requirement of unity of invention shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features. The expression "special technical features" shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art. As noted in the prior Office action, the instant claims lack unity of invention. The claims are drawn to different species and the only common feature among the claims is urea and water, which is known in the prior art.

The requirement is still deemed proper and is therefore made FINAL.

Claims 5, 7-10, 13, 14 and 29-45 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention and/or species,

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there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 14 October 2010.

### ***Status of the claims***

Claims 1-45 are pending in the present application. Claims 5, 7-10, 13, 14 and 29-45 are withdrawn from further consideration as being drawn to nonelected subject matter. Thus, claims 1-4, 6, 11, 12 and 15-28 are examined herein on the merits for patentability. No claim is allowed at this time.

### ***Specification and Claims***

In order to minimize the necessity in the future for converting dimensions given in the English system of measurements to the metric system of measurements when using printed patents as research and prior art search documents, all patent applicants should use the metric (S.I.) units followed by the equivalent English units when describing their inventions in the specifications of patent applications. See MPEP 608.01(IV). Please update the specification and instant claims where English units are presented such that metric (S.I.) units are presented followed by the equivalent English units.

### ***Oath/Declaration***

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

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The oath or declaration is defective because: the oath or declaration submitted in the instant national stage application names an inventive entity that is different from the inventive entity set forth in the international application, PCT/US2003/038118. The international application lists Peter Gouldthorpe as an inventor, but the instant national stage application does not. See 37 CFR 1.497(d).

### ***Claim Objections***

2. Claim 26 is objected to because of the following informalities: the term "ratio" is misspelled as "ration". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 21-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "substantially" in the 5<sup>th</sup> line of claim 21 is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is not clear from the instant specification or the instant claims what constitutes substantially dissolving the first mixture in the second mixture. It's not clear how much of the chlorothalonil and bactericide must be dissolved in urea and water in order to be "substantially" dissolved.

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4. Claims 1, 2, 4-6, 11 and 15-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The instant claims recite "chloronitrile", but the instant specification and the claims only list one compound that constitutes a chloronitrile within the scope of this invention: chlorothalonil. The instant specification does not provide any guidance for one of ordinary skill in the art to determine which chloronitrile compounds will fall within the scope of this invention. Chlorothalonil is merely one example that does not represent the entire genus of compounds that are considered chloronitriles. For instance, US 6,353,127 discloses numerous chloronitriles, but it is not clear whether all of these compounds will function within the scope of the instant invention. US '127 does not disclose these compounds as suitable for use in antimicrobial compositions, and thus it is not clear whether they are within the scope of the instant invention. Therefore, the only chloronitrile that is within the scope of the instant invention is chlorothalonil.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1,148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 1-4, 6, 11, 12 and 15-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai et al. (J. Pesticide Sci., 1977) and Oguri (US 2003/0055096) in view of Pryor et al. (US 2,531,463).

**Determination of the scope and content of the prior art**

**(MPEP 2141.01)**

Sakurai et al. teach that multiple resistance of organisms to various chemicals has been increasing over a long period of time, and it causes serious problems in the field of antibacterial drugs, veterinary drugs and insecticides; and some phytopathogenic bacteria and fungi resistant to antibiotics and synthetic fungicides were isolated from diseased plants in the field and such resistant strains were rapidly distributed increasingly every year (pg. 249, left column, 1<sup>st</sup> paragraph). Sakurai et al. teach chlorothalonil as a fungicidal compound used in agriculture (pg. 250, left column, 3<sup>rd</sup> paragraph).

Similarly, Oguri teaches that various agricultural and horticultural fungicides have been known, but there are a great variety of diseases to be controlled and it is difficult to specify the kind of the disease in practice and control the disease by choosing a

fungicide suitable for the disease. In addition, it is necessary to cope with the appearance of fungi which have acquired tolerance to specific agents and the occurrence of novel diseases due to the change of the mode of agriculture. For these reasons and the like, there is desired a fungicidal composition having a high activity and a wide anti-microbial spectrum ([0002]). Oguri further teaches chlorothalonil as a preferred fungicide applied to plants or soil (Abstract; [0007], [0039], [0052]-[0053]; and Formulation Examples 13-18). Oguri also teaches addition of urea and water as suitable carriers ([0049]).

#### **Ascertainment of the difference between the prior art and the claims**

##### **(MPEP 2141.02)**

Sakurai et al. and Oguri do not explicitly disclose the combination of chlorothalonil and trichloromelamine. However, Sakurai et al. clearly teach that multiple agricultural chemicals are necessary to adequately control phytopathogenic bacteria and fungi in agriculture; and Oguri clearly teaches the desire to combine agricultural active ingredients for high activity and wide antimicrobial spectrum. Also, Pryor et al. teach trichloromelamine as a preferred active fungicide for treatment of fruits and vegetables to prevent decay (col. 1, ln. 1-6; col. 8, ln. 16-25, 45-48 and 66-75; col. 9, ln. 1-2; and claim 11).

#### **Finding of *prima facie* obviousness**

##### **Rational and Motivation (MPEP 2142-43)**

Therefore, it would have been *prima facie* obvious for one of ordinary skill in the art at the time of the invention to combine chlorothalonil and trichloromelamine in a

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single composition for the antimicrobial treatment of agriculture. One of ordinary skill in the art would have been motivated to combine chlorothalonil and trichloromelamine since Sakurai et al. and Oguri clearly teach the need to combine agricultural active ingredients for adequately control phytopathogenic bacteria and fungi, and they teach chlorothalonil as a suitable fungicidal composition for application to plants. Also, Pryor et al. teach trichloromelamine as a suitable active fungicide for the treatment of fruits and vegetables. Therefore, the combination of chlorothalonil and trichloromelamine would provide a wider spectrum of activity to adequately control phytopathogenic bacteria and fungi.

With regard to the incorporation of urea and water, Oguri et al. clearly teach urea and water as suitable carriers for agricultural active agents, and urea is a known fertilizer while water is essential for agriculture. Thus, it would have been prima facie obvious to add urea and water to the chlorothalonil and trichloromelamine composition.

With regard to the amounts and ratio of chlorothalonil, trichloromelamine, urea and water, one of ordinary skill in the art would readily be able to determine through routine experimentation the necessary amounts of each ingredient to provide an agricultural product that is easy to handle, easy to use, and efficacious.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

### **Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan W. Schlientz whose telephone number is 571-272-9924. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NWS

/John Pak/  
Primary Examiner, Art Unit 1616